

ABSTRACT

A system for approximating flux density of light on a human retina. A housing has an opening allowing light to pass to inside the housing. A baffle coupled to the housing replicates a facial cutoff function response for the light inside the housing. Two detectors are positioned to detect the light inside the housing. One detector produces a photopic spectral response function of the light inside the housing that approximately replicates a spectral response of the foveal cones in the retina. Another detector produces a scotopic spectral response function of the light inside the housing that approximately replicates a spectral response of rods in the retina. A processor coupled to the detectors calculates a mesopic flux density of the light inside the housing based on the photopic and scotopic spectral response functions.